

READ BY
FARMERS
IN EVERY STATE AND TERRITORY.

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THE Great Question Does Farming Pay in Pennsylvania? By J. A. Kerschner.

Read before the Philadelphia (Pa.) Farmers' Institute.

THIS IS A QUESTION very frequently asked by our farmers, and it is a very proper one, too. Every man who tills the soil probably does so in order to make therefrom a comfortable living.

Now, it cannot be denied that the real wealth of this country is in its arable lands—the essential industry is farming. Failure upon the farm brings financial distress to every business enterprise, while bountiful harvests insure prosperity.

Men in almost every profession and business have their associations and use their combined strength to protect their financial and other interests. If agriculture is to be protected it must be done by the farmers themselves. Those who have selected this occupation should be willing to devote their energies to secure its fullest development. And, in order to help farmers to till their farms to the best advantage, the Pennsylvania State Board of Agriculture authorizes the holding of "Farmers' Institutes," where improved methods of farming are discussed, and if our farmers desire to make their farms pay a good rate on the investment it behooves them to attend these Institutes and learn all they can about their chosen calling.

But we find that there is no profession where so many of its members decry their occupation as do the farmers. There is a continual complaint that farming does not pay—not even two or three per cent. on the money invested. These farmers

FAIL TO COUNT ALL THE ADVANTAGES THEY POSSESS.

They have comfortable homes, and consume many of the luxuries, without making any account of them, which others have to use sparingly and pay for in money. We sometimes hear farmers say that they have worked hard for 20 or 30 years and made nothing; their money was as good as thrown away. But let us see. These same farmers, probably brought up six children, gave them a fair education, a comfortable home and plenty to eat and wear. And yet, in spite of all this, they say they made nothing. Could such a farmer have bought all the comforts his family of eight enjoyed and given his children an education with a salary of less than \$1,000 annually? When all these advantages are taken into consideration, then, it must be admitted that farming does pay in Pennsylvania, as well as anywhere else.

As before intimated, every farmer should know what he is doing. Intelligence as well as muscle is good capital to invest when one wants to become a successful farmer. If the farmer toils day after day, giving no thought of the result, whether it will end in gain or loss, he makes a serious mistake.

ONE REASON

why farming is credited with such small rates of profit is because farmers fail to keep correct accounts, or often no accounts at all. They spend all they make, and then, because there is nothing left, claim they have made nothing. Pennsylvania has many farms which, together with all the stock, are not worth above \$4,000, the interest of which would be but \$240. Now, how many of the comforts of life—not speaking of the luxuries—could even a small family enjoy on an income of \$240? And yet, on a capital of \$4,000, invested in a Pennsylvania farm, whole families obtain a good living, keep the principal secure, educate the children, ride to church, or any other place, and enjoy an independence not to be found among any other class of people. And at the same time these farms are not nearly worked to their full capacity.

One advantage which our farmers have is that they have the markets even at their very doors. It is also a fact, perhaps not known to many of our farmers, that Pennsylvania produces on an average as much wheat to the acre as Ohio, Indiana, or Illinois, while labor is cheaper here than there, and prices for farm produce higher. In view of these facts must we not come to the conclusion that farming pays in Pennsylvania if it pays anywhere?

A NUMBER OF REASONS

might be given why farming does not pay in some instances. Many farmers are not careful enough to have their fences in proper condition; so their cattle will often get into their grain fields, and perhaps in this way 10 or 20 bushels of wheat or corn will be lost. Other farmers have too much waste land, on which they have to pay tax, and from which they receive no income. Waste land should be reduced to a minimum, or the balance will go on the wrong side. Again, farmers are not careful enough to keep their implements properly housed. Last Winter I could see every day two plows a farmer left standing in the field in the Fall. It is true, in the Spring he did not have the trouble to get his plows in position—they were right there—but very likely worth a dollar or two less than had he put them under roof.

Farmers, too, should provide warm stables for their horses and cattle, for this is a great saving in feed. More instances might be given wherein farmers are apt to lose more money than they think, but the few enumerated should suffice to show that if farmers are the least bit careful in these matters, their balance sheet will show that they have come out on the right side.

HOW TO KEEP THE BOYS.

We often hear farmers complain that their boys want to leave the farm and seek other employment. No wonder this is so. If you want your sons to stick to the farm, don't keep on saying constantly that farming does not pay. Someone has facetiously said that the best way to make a boy stick to the farm was to have him walk over a newly-plowed 10-acre field just after a soaking rain; but, speaking seriously, if you want your boys to stick to the farm, and not go to work on the railroad or in the mines, don't be forever preaching starvation when they are about you. Provide pleasant homes for them, and don't treat them as slaves. Better go to work and give them a patch of ground, the proceeds of which are to be for their use. Give them also the privilege of securing all the education possible, provide books and papers for them to read, and above all train them to respect you, and you will find that your sons will not be so eager to leave home.

In conclusion, I would say that all farmers should try to become as intelligent as possible, and work their farms according to the best-known methods of agriculture, and then farming will pay, and the farmer will also no longer be made a butt of ridicule, but he will become respected as the man upon whom all others depend.

The Co-operative Idea Among Western Farmers.

A still more striking evidence of the dominance of the associative idea among the settlers of irrigated lands is seen in the plan of a colony which settled in southern Idaho as recently as 1894. These colonists had observed that the mining-camps of that region were littered with tin cans, the labels of which bore evidence of the prosperity of distant industries. They also learned that the condensed milk used in that locality came from New Jersey, the creamery butter from Minnesota, the starch from Maine and the bacon principally from Chicago. As the raw materials of these products are all easily grown in Idaho, the colonists determined to provide the simple industrial plants required to manufacture the raw material into marketable form. They added to the price of their land \$10 per acre, and thereby raised a capital of \$50,000, which was somewhat increased by the sale of business property in the village. This capital provided a creamery, cannery, fruit evaporator, starch factory, pork-packing establishment and cold-storage plant. Taken in connection with their diversified farms, these little industries constituted, in an industrial sense, a symmetrical community.—Century.

Cut down all trees that have gone so far beyond their prime that they have badly decayed trunks and only one or two broken branches.

WIREWORMS.

Results of Efforts to Discover a Practicable Method of Preventing the Ravages of These Pests.

[M. V. Slingerland, in New York Station Bulletin.]

AMONG the most prominent of the pests that infest field crops are the insects commonly known as wireworms. These are long, slender grubs of a yellowish-white color, and with unusually hard bodies. Their wire-like form and the hardness of the body has suggested the common name. Two wireworms are shown, natural size, among the roots in figure 16; one is represented enlarged in figure 14. Unfortunately the term wireworm has been misapplied to certain

wireworms are not at all injurious to agriculture, but certain others live in the soil and feed on the roots of plants, and on seeds. The latter species are often exceedingly injurious; and as they work in the ground out of sight, they are very difficult to combat.

During three years (1889, 1890 and 1891) we made numerous experiments to ascertain a practical method of preventing the ravages of these pests. Unfortunately our efforts were not attended with that degree of success for which we had hoped, and thus the chief object of our investigations was not accomplished. But we did succeed in proving the futility of many methods that have been very generally recommended for the destruction of these pests; and it seemed worth while to publish the detailed results of our experiments, for they might save farmers from making expensive efforts that would surely bring no adequate returns.

The author goes on at length to detail his experiments with these methods, which included the protection of the seeds by paris green, tar, salt, copperas, chloride of lime, kerosene, turpentine, strychnine and other poisons, starvation by clean fallow, and by the cultivation of supposed immune crops, such as buckwheat, mustard and rape, trapping, etc. All these proved entirely useless. The only good results followed Fall plowing, and of this he says:

"The explanation of the beneficial results that will follow Fall plowing we believe to be found in the following facts, which were brought out in our studies of the life history of our more common species of wireworms: Wireworms live for at least three years in the worm or larval state. In this state they cease feeding about November 1st, and hibernate until Spring. When the worms are fully grown they change to soft white pupae, which resemble the beetle in form. This change takes place in the species that commonly infests field crops during the month of July. The pupa state lasts only about three weeks, the insect assuming the adult form in August. But, strange to say, although the adult state is reached at this time, the insect remains in the cell in the ground in which it has undergone its transformations till the following April or May, nearly an entire year.

"We found that in every case where we disturbed the soil so as to break these earthen cells, the insects within perished. This experience clearly indicates that if infested fields are plowed after July 20th and thoroughly pulverized and kept stirred up, many of the little earthen cells may be broken and the tender pupae or beetles within destroyed. After three or four weeks of this thorough cultivation, wheat or rye may be sown.

"In connection with this Fall plowing and cultivation we earnestly recommend the method of short rotation of crops to farmers having land badly infested with wireworms. Do not keep fields in sod for more than a year or two at a time. No doubt it will require several, at least three, years, by this method, to render the soil comparatively free from the pests, as only the pupae and adults are killed each Fall, while most of the one and two year old wireworms will escape injury. Those farmers who practice the method are not troubled with wireworms."

Fertilizers for Potatoes on Light Land.
The best kind of potatoes are grown on light soils, they being dry and mealy, and free from the diseases which affect them on clay land. The kind and quantity of fertilizers used are a mixture of super-phosphate one-half, and one-fourth each of sulphate of potash and any sort of nitrogenous fertilizer, either blood and meat or nitrate of soda. Usually this mixed fertilizer is prepared for use and sold as a special potato fertilizer. As much as 1,200 pounds of it have been used to the acre, for a full yield of 250 or 300 bushels an acre. The usual method with potato growers is to follow this crop with wheat, of which, after this liberal fertilizing and the Summer's cultivation, 30 bushels to an acre is generally produced. Clover is sown with the wheat, or in the Spring after it is sown, and after one crop of hay, and seed taken from the second growth, the soil is plowed under for potatoes again, and this short rotation is continued, with a very good profit. The large crop of potatoes brings about as much as three ordinary crops of grain, and the high manuring and the good culture keep the soil in an improving condition all the time. The cost of the fertilizer is \$30 a ton.

Musty Maple Syrup.
EDITOR AMERICAN FARMER: Can you tell me how to restore a quantity of maple syrup that has become musty?—C. V. Peck, Johnstown, N. Y.

Will not some reader of THE AMERICAN FARMER give our correspondent the benefit of his experience upon this subject?—EDITOR.

Wireworms.
14.—A wireworm, twice natural size.
15.—A millipede, which are not true insects, but belong to a different class in the animal kingdom. Figure 15 represents a millipede. The following pages do not treat of millipedes.

16.—A corn-plant growing in a root-cane infested by wireworms and click-beetles. (From a specimen in the Cornell Insectary.)
17.—A click-beetle, schoolhouse, where all lessons had to be learned from books, and where nature was never given a chance to teach us anything. Here with one eye on the teacher and one on this interesting jumper laid on our book behind the desk, we found a most fascinating occupation for the tedious moments. But the end was always the same; the beetle jumped so high that it betrayed us and was liberated, and we were disgraced."—(Comstock's Manual.)
Many species of

18.—The Eyed Blister (Alois oculatus).

SILOS.

Their Form, Cost and Manner of Building Considered.

[Read at North Dakota Dairy Convention by J. H. Shepherd.]

THE first and most important question which arises concerning ensilage is, Does it pay? Is it an economical feed for milk cows? Bulletin No. 38 of the Wisconsin Experiment Station furnishes a basis for a practical answer. That bulletin gives 100 rations fed by dairymen in various parts of the United States, and probably represents fairly the practice in feeding of the best dairymen of the country, many of whose herds have averaged 300 pounds, or more, of butter per cow annually. Of this number over 60 use ensilage.

Another common question is, Will it taint the milk and butter? Mr. C. P. Goodrich says concerning this: "As soon as my butter made from the ensilage began to get into the Chicago markets, the commission men voluntarily wrote me and said: 'The flavor of your

butter is splendid, and I was able to raise the price two cents a pound in a very short time.' The amount of testimony of this character which I could quote you need only be limited by time. A number of the gentlemen who speak to you at this meeting could give similar testimony from personal experience.

Silage is nearly like green grass as a feed, hence its value in a Winter ration. It has great value as a "hold-over" feed to use during drouthy Summer seasons when pastures are poor. Prof. King, of Wisconsin, says: "I have seen a herd of 50 cows eat so full a breakfast of clover silage two years old, that on going to a good pasture in the middle of June, many of them laid down directly to ruminate."

If during a Summer shortage of pasture a good herd of 25 cows shrink from a third to a half in their milk for six weeks, it means a loss of 75 to 100 dollars, if butter is worth 20 cents per pound.

Several different crops have been tried for the silo, among which I may mention corn, clover, oats, barley, rye, and roots. Of the whole number corn has given the best satisfaction in every way.

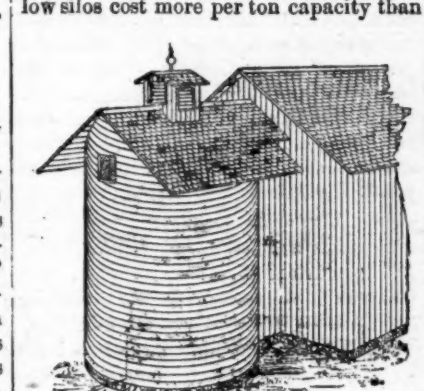
Construction of a round silo.
Good results have also been obtained from clover. Oats, barley and rye have been less satisfactory, while roots are a failure for ensilage.

This result suits our condition well, as we can grow corn readily, and so produce the best class of silage. Grow a variety of corn which will surely reach the glazing stage before frost. Corn is ready for the silo when the kernels are glazed over the tips. Mercer flint, Minnesota flint, Improved ree, and in most sections of the State Minnesota King, and a few other early dent varieties, will do well for silage.

It has been found that a silo which will hold 360 tons of silage containing 108 tons of dry matter will hold less than 45 tons of clover hay. Thus it will be seen that feed requires only about one-third the room when stored in the form of silage. It requires a less outlay at first cost to build a silo than to build a shelter for a similar amount of feed in the form of hay or dry fodder, provided a round wooden silo is built.

The cost of building a silo is variously estimated from 75 cents to \$1.50 per ton capacity, for wooden silos. The cost

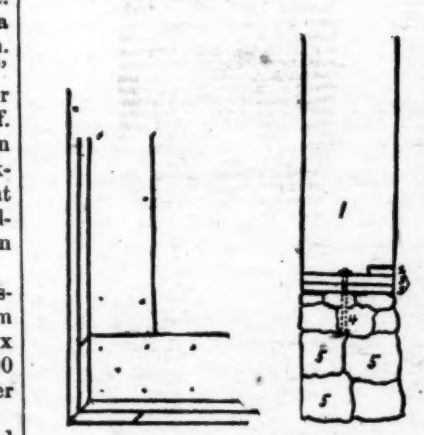
varies with the form of silo you build, being least for the round and greatest for the long-shaped rectangular one. Shallow silos cost more per ton capacity than



Method of roofing a round silo. A shows where air is admitted between studding to ventilate behind the lining; B is the feeding chute; the filling window is just below the roof, and the cupola serves as a ventilator.

deep ones. Those built in a bay of the barn are less expensive than outdoor ones.

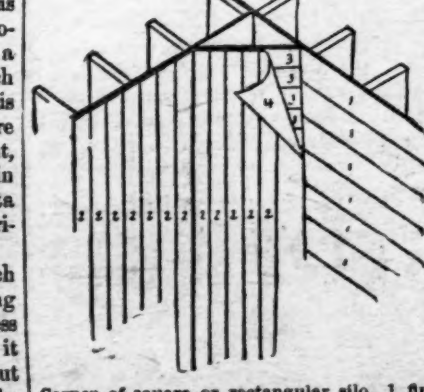
The life of a well-constructed silo should be at least 10 years. The fear of silage freezing seems to discourage many persons who have thought of building silos in this State. I do not advocate building a silo which will be warm enough to prevent the silage freezing next the wall. The only result of freezing is the inconvenience it causes the feeder. In 1894 the silage at the College froze around the wall to a depth varying from 10 inches to two feet, and remained as a wall during the coldest weather. When it thawed and fell down it was fed out, and no bad results were noticed. It was not different in appearance from the silage which had not been frozen. If a light layer over the surface freezes it is quickly thawed when mixed with other silage. In the Tenth Annual Report of the Wisconsin Station is a report from 42 persons who had experience with frozen silage. Only one of the entire number reports any bad results, and that one says that cows scour when fed large quantities of it while it is frozen.



Fastening of sills at the corners. Fastening of studding to the sills. The stud, 1, should be blocked against a strip, 2, nailed to the sill and a bolt, 3, driven through the sill, 3, into the wall, 4, 5.

The form of silo to build is an important question to settle before building. The round silo has many points in its favor. It holds more silage for a given amount of wall space than any other form. Lighter timbers can be used than in any of the rectangular forms. Two-by-four studding can be used in the round silo, while in rectangular ones two-by-tens or two-by-twelves, set 16 inches apart, are necessary to obtain the required strength of wall. In the round silo the lining boards act as so many hoops on a barrel world, and greatly strengthen it. Ensilage is more likely to stick to the wall and fail to settle right in the corners, causing spoiled silage. Round silos have no corners, and thus allow the silage to settle evenly.

When silos are built inside of barns it often happens that a rectangular form



Construction of door. made from green corn is usually quite sour. Corn grown for ensilage should be planted in hills, and cultivated in the same way as when grown for the ears. The corn crop and the silo must form the sheet anchor for dairymen in North Dakota. It is green grass for your cows in Winter and fresh pasture during drouthy spells in Summer.

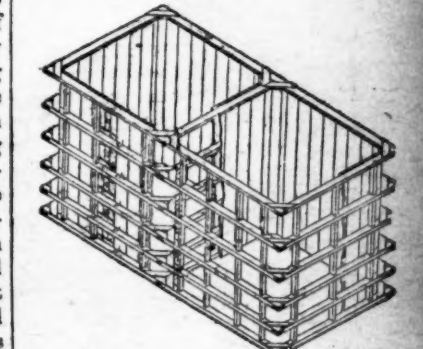
imum, and are better if twice that depth. It requires a considerable depth to obtain sufficient pressure to make the ensilage keep well.

No floor other than clay or gravel is required for the silo. Gravel thoroughly tramped in and covered with cement serves a good purpose in preventing the burrowing of rats. Burrowing in this way admits air and causes the silage to rot.

The walls of the silo must be double, with tar paper between the boards, breaking joints, or the inside layer extending up and down. The walls must be air-tight, as the admission of air to the silage always causes rotting.

Feed from the top surface of the silage. Feeding from the side increases the surface and causes portions of it to be exposed to the air for several days together.

Ensilage must be fed from the surface of the silo at the rate of two inches per day at least, to prevent moulding. A full ration for a cow is 35 to 45 pounds per day. The weight of silage varies

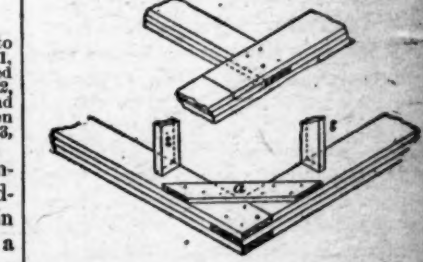


Construction of a double silo with horizontal girts. A represents the door, of which the five sections extend from sill to plate.

with the depth of the silo, and the portion from which it is taken, being about 20 pounds for the first two feet, and gradually increasing, reaching 40 pounds per cubic foot at a depth of 15 feet. Thirty-five pounds per cubic foot is about the average. From this data it is easy to calculate the size of silo required for your herd.

Filling the silo is an important part of the work, and many failures result for lack of care in filling. Place your cutter so that the carrier will deliver the corn at the center of the silo, if possible. Have a man in the silo to tread it down solid next the wall and in the corner, to exclude the air. The one thing which prevents silage keeping properly is the contact of air with it.

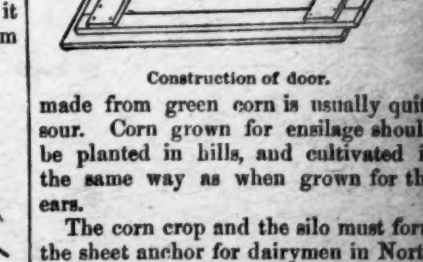
Green grass is sometimes placed over the top of the silage when the silo is filled, which prevents any loss from the top layer spoiling. The matter of covering it at all depends upon whether it is cheaper to lose one or two tons of silage, or to use the marsh hay. If the



Construction of corner joint and cross-wall intersection. A are short supports between the different girts; B, a cross brace.

surface silage is wet thoroughly after the pit is filled, and wet a second time 10 days later, the amount which will spoil is very small.

Corn should have the kernels glazed when cut for the silo. Green corn does not make so good ensilage. Silage



Construction of door.

made from green corn is usually quite sour. Corn grown for ensilage should be planted in hills, and cultivated in the same way as when grown for the ears. The corn crop and the silo must form the sheet anchor for dairymen in North Dakota. It is green grass for your cows in Winter and fresh pasture during drouthy spells in Summer.

Starch from Potatoes.
About 15,000 tons of starch have been made from potatoes this season in Wisconsin, Minnesota and North Dakota. Not far from 3,500,000 bushels of potatoes have thus been used, and yet this represents about half the product of the potato belt. The farmers have received an average price of 10 cents a bushel for the potatoes.

Buy trees only of reliable agents whom you know, or of reliable firms.

POULTRY PIGEONS & PET STOCK



Cacklings.

While wheat is one of the best grains for poultry.

Wheat is rich in material for growth and stimulates egg production.

Fowls should be kept from food 10 or 12 hours before killing.

To have the hens lay with any regularity in winter their quarters must be warm.

For fattening fowls cooked food is better than raw, for the reason that it is more easily digested.

Backwater is a good winter feed. It is valuable as an egg producer and will keep fowls in good condition.

On many farms geese could be raised to good advantage. Besides yielding a regular income in the way of feathers, they are a profitable market fowl.

While ducks or geese do not seem subject to roup or cholera, yet they too closely confined in damp quarters.

Look after the small economies in poultry keeping. It is the summing up of little things and little cares in the business which puts the balance on the right or wrong side.

An attempt to improve the flock is all right, but one would better buy thoroughbred eggs or fowls than to try to grade up the common stock, because it saves time, and going up hill is not always successful work. Be satisfied with nothing but the best.

Hens like variety; almost starved to it, they will reject all kinds of food not suitable, and they are usually the better judges of what they want and need. Of the grains, wheat is best for eggs. Long-legged fowls are hard to fatten, but those with short legs soon become plump.

Give the hens all possible freedom, and they will be less trouble with soft-shelled eggs, for they will get the exercise and pick up the lime they need. If they have stopped laying, a change of food will soon start them in business again; and always do a variety of food bring the best results.

Remove any diseased fowls from the flock, that the rest may have no possible chance for contagion. Scaly leg is especially contagious, and a single fowl affected by it, if left to run with the rest, will soon contaminate the whole lot; and it seldom pays to attempt to cure a sick chicken.

By crossing we often procure large, well-developed chickens, which often surpass in size and development either of their pure-bred parents. Of course, for breeding purposes these chickens are worthless, but they were not bred for that end; they develop meat and eggs, and if they do this work they answer the ends of their being.

Buckwheat is an excellent grain given occasionally to the laying stock, but on account of its fattening nature it must be used somewhat sparingly. As overfat hens are never profitable, buckwheat is used comparatively little by poultrymen. Hens will not eat it unless very hungry and it is fed alone. There is a taste about the buckwheat kernel that chickens do not take to at first, although after they become accustomed to it they devour it with a relish. The fattening nature of this grain and wheat must be remembered and common sense exercised in their feeding.

Good eggs cannot be expected from hens that are fed largely on slops and refuse. Corn makes the richest egg, as it adds to the fat content and gives the contents of the shell a consistency that makes it especially valuable for baking and kindred uses. A meat ration also adds to the value of the eggs, and it is because ducks are such voracious hunters of frogs and the many insects on land and water that their eggs are preferred to all others by bakers and confectioners. Guinea eggs are especially rich in this quality and are better for baking and making icing than those of almost any other fowl.

Three times a week, after washing and drying perches, dropboards and nest boxes, sponge them off with kerosene. Use the coarse sponges sold for stable use; then put clean short straw in every nest. The floor of the henhouse should be covered with gravel, to be swept off and renewed periodically. As an efficacious preventive of vermin the whole interior of the fowlhouse should be whitewashed with lime tinted to a soft creamy tone by the addition of some yellow ochre and made antiseptic and antimicrobial by mixing with it salt and plenty of crude carbolic acid. A creamy tone is recommended because the dazzling white of pure whitewash is injurious to the fowls' eyes. This coating should be done three times a year to keep the house pure and wholesome.

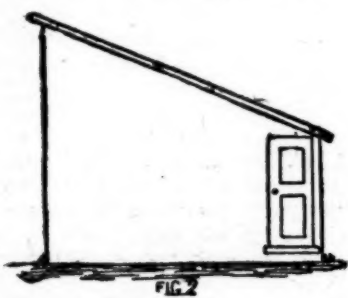
THE POULTRY HOUSE.

Comfortable Homes for Poultry on the Farm.

The following plans are given by Country Gentleman for keeping 200 fowls: In design 1 we have a house 100 feet in length, divided into 10 pens, each 10 by 10 feet, and intended to accommodate 20 fowls. At the rear of the pens is an alley extending the whole length of the building, three feet in width, and having a door at each end. Such an alley is a very great convenience



in cleaning and feeding. The house is 12 feet high in front, seven feet in the rear, and is designed to be boarded and the roof covered with shingles. If the roof is to be covered with paper, the front need not be so high. The width of the house is 13 feet, divided between the pens and the alley. Figure 1 shows the front elevation; figure 2 the end, 12 feet front, 13 feet base, 14 feet rafters,



at the right a door six feet six inches high and two feet six inches wide; figure 3, the ground plan.

In the second design we have a modification of the first (shown in Figs. 4 and 5), an open scratching shed being provided for the fowls. In all other respects the two houses are alike. The second is much more expensive than the first, but better results can be obtained from the fowls. The house for the ac-

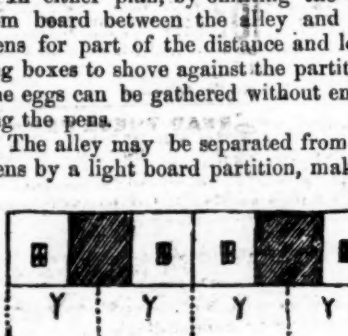
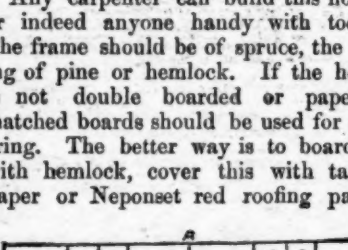


Fig. 3—Y, yard; W, window; O, opening for exit and entrance of fowls; A, alley three feet wide extending whole length of building, with door at each end; X, partition of slate or wire, having doors at D; R, roosts; N, nests.

commodation of 200 fowls in this second design will be about twice the length of the house in the other plan, and will cost fully twice as much.

In either plan, by omitting the bottom board between the alley and the pens for part of the distance and leaving boxes to shove against the partition, the eggs can be gathered without entering the pens.

The alley may be separated from the pens by a light board partition, making



the house warmer, or by a slate or wire partition. The pen should be separated by a broad partition for at least three feet in height; the remaining distance can be of wire netting or slats.

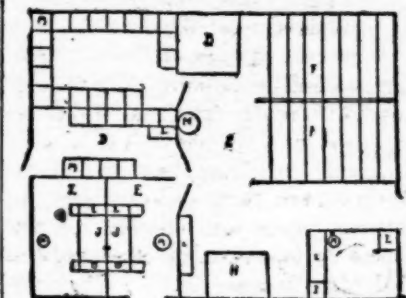
Any carpenter can build this house, or indeed anyone handy with tools. The frame should be of spruce, the siding of pine or hemlock. If the house is not double boarded or papered, matched boards should be used for covering. The better way is to board up with hemlock, cover this with tarred paper or Neponset red roofing paper,



and then clapboard. But the clapboard can be omitted if one doesn't care for appearances.

An exceedingly practical and convenient poultry house is given by Farm and Home, as shown in Fig. 6. This house is 30 feet long by 24 feet wide, and can be constructed of sod or lumber. As shown in the ground plan, the space is divided into four main parts. The principal room occupies the entire right side of the building, as shown in the ground plan, in which F F are roosts 14

Just below it is the room 6 by 12 feet for sitting hens, while in the lower left-hand corner is a room 10 by 12 feet for chickens. I is a box in which to put lime and oyster shells. L L L are feed boxes and troughs; V V receptacles for



A CHEAP POULTRY HOUSE.

green feed; M M M are drinking vessels; A A are nests 18 inches square. Windows and doors can be arranged as shown in the illustration or to suit the taste of the builder. There is a partition in the room for chickens, dividing it into two parts, one for those quite small and the other for larger ones. A lath door between this room and the main room allows the chickens to pass.

WOMAN AND HENS.

An Interesting Account of One Woman's Experience With Poultry.

An interesting account of poultry-raising is told by Mrs. A. O. Eldridge, in the Los Angeles Cultivator, as follows: Knowing absolutely nothing of the habits or appearance of good-blooded fowls, our first venture in fine stock was almost a total failure. But we subscribed for three poultry papers and began studying roup remedies, powders and lotions and dosed worthless fowls with dollar bottles of medicine. Within six months we had got our courage up to the point of killing roup by cutting the heads off sick chickens.

One of the best things we did was to start an account in which the number of eggs gathered each day was kept, together with every chicken or egg used for table, those sold, with date of sale, and price received; number of hens set, when and with what kind of eggs; all losses and expenses. For, although we loved the biddies and were working for health, we still had a desire to make it pay in a small way.

At the end of the first year the account showed that we had set over 300 eggs and had only reared about 60 fowls; had battled with mites and conquered; had lost some sick fowls. Still, the cash account was in our favor and we were rich in experience and theory, gathered from journals as well as friends.

About this time we purchased a home, destroyed a mite-infested henhouse already there, built a light, well-ventilated house, with lath roof in the center of the yard to afford shade immediately. We now kept from 30 to 40 hens, mostly Brown Leghorns, with a few Plymouth Rocks and Silver Wyandottes.

Our place is all out to fruit and nut trees, no other farming being done, with the exception of raising beets and pumpkins for a cow.

The first of October we select six (or less) hens with a cock, for breeding, and place in a small yard. Do not believe in in-breeding at all. Chickens hatched during the next three months do the best for us, and bring higher prices when small. We select good sitters when possible. If a hen sets well and proves to be a good mother for three months we allow her to die of old age. She is a privileged character about the place. Just before hatching insect powder is sifted through the hen's feathers and about the nest, which is usually made in the barn, so that the other fowls cannot trouble it. When the chicks are a day old they are removed to a box coop with lath roof attached. These are thirty inches square, perhaps, and can be moved to fresh ground every few days. For about 10 days we feed stale bread and milk curds five times per day. When three days old the chicks are allowed their liberty. In a few days a little wheat is given, and when about three weeks old they are fed three times per day on this alone. As soon as they can eat corn it is used with the wheat alternately, and they are fed twice a day until they are sold or grown. The old fowls are given for a morning ration three quarts of bran moistened with hot water. The small chicks get a warm breakfast on cold or wet mornings, and are kept in when wet. Two or three gallons of thick milk is curdled in the morning and this is poured into the troughs, which are tilted slightly, allowing the whey to run off. This is given at noon with a pail of bluegrass freshly mown from the lawn. This is dampened and a pint of bran scattered through it, as they will not eat it alone unless allowed to dig it up by the roots themselves. When there are seeds along the fences no feed is given at night, as they are turned out for about two hours with free range, except in the grounds about the house. A hydrant in the yard supplies fresh water, and once a month a hose is attached to it and the soil wet and cleaned up thoroughly.

The house is whitewashed twice a year and all droppings cleared once a week. It is 3x36 feet in size. We usually raise from 75 to 100 chicks, and during the past three years have had scarcely any trouble with disease or mites. Expense account has never run over \$24 per year. The best year we have had gave, clear of all expenses, \$128.36. Average price of eggs, 25 cents per dozen; of chicks, \$4 per dozen. Low-

FITSCURED

(From U. S. Journal of Medicine.) Prof. W. H. Peck, who makes a specialty of Epilepsy, has without doubt treated and cured more cases than any living Physician; his success is astonishing. We have heard of cases of 50 years' standing cured by him. He publishes a valuable work on this disease which he sends with a large bottle of his absolute cure, free to any sufferer who may send him P. O. and Express address. We advise anyone wishing a cure to address, Prof. W. H. PECK, P. O. Box 4, Cedar St., New York. When writing mention this paper.

est price received for eggs was in March and the highest in December. Market, a grocery store six miles distant.

The last Winter we raised all Brown Leghorns, and, with the exception of three hens to whom accidents happened, every egg hatched that was set and only two chicks died. Occasionally a melon, pumpkin, beets or potato parings are given; also, ginseng, china or crockery of any kind that suffers an accident is pounded up for them, or a few shells. No meat, green food, ground bone or medicine is ever purchased.

The "Planet Jr." Horse Tools.

Our readers will be interested in the new and improved implements for sowing all kinds of garden seeds. S. L. Allen & Co., Philadelphia, Pa., are manufacturing two new machines for the season of 1896.

Their new No. 3 drill is unquestionably the most perfect tool ever offered for sowing all kinds of garden seeds. It is compact, light, strong, easily adjusted and extremely perfect in all its details, being a most astonishing regularity either in hills or in drills from four to 24 inches apart.



The new No. 8 horse hoe and cultivator combines the practical knowledge and experience gained by them in designing and manufacturing this class of goods during the past 25 years. The lever-expander, handle-braces, cultivating steels, attachments, and strength and finish, which are peculiar to this machine, make it especially adapted for weeding, covering, hoeing, cultivating, ridging, hilling and turning vines in every crop cultivated by horse-power; while our new depth-regulator will be appreciated by every user of a horse cultivator. It is attached to the center of the machine, worked simultaneously with the wheel by the wheel-lever, and removes entirely the tendency of this class of tools to run deeper behind than in front so ground, making it therefore, unnecessary to hold up on the handles.

We call attention to the important points in the construction of the machine:

The patent frame is made of stiff steel, extra long, and from one to two inches higher than other makes.

The patent standards are all hollow steel, of the strongest pattern.

The cultivating-teeth are of the most improved pattern, doing double the work of the old style, and are reversible.

The patent hoes are also reversible, and are used both point foremost and rounded edge foremost, and may be changed from side to side, and in the latter are invaluable for close hoeing.

The patent side standards, take either cultivator teeth or hoes, are accurately adjustable at any angle, by means of a patent notched head and corresponding staple bolt.

The wheel lever is a new pattern, with a short, convenient handle. The perfect regulation of depth has never been possible till with the present machine, which carries a depth regulator in the center of the tool, worked and set at any depth, simultaneously with the wheel, by the wheel lever.

The new patent expander. This new device is superior to every other, combining great strength and remarkable stiffness with simplicity. The malleable parts have been replaced almost entirely by steel, made close fitting and thoroughly braced. The easy motion is pleasant to all, and the usual play of all other expanders is completely remedied.

The patent draft hook is hollow steel, of peculiar shape, always standing erect, with special pin, which does not lose out.

The patent handle braces. These are of an entirely new design, and stiffen the handles perfectly, and the tool admirably, yet do not interfere with the opening and closing of the tool, nor with the side adjustment of the handle.

The patent handle adjustment. This is complete; either up or down to suit different heights, and an unusual but very important side adjustment, which can be altered in a few seconds. It holds the handles either exactly central or to one side, as desired. Thus, in covering corn, etc., the operator need not walk on the finished work, and in hoeing and among high corn, the handles, hoes, or corn, etc., he may arrange the handles so that in working close to the crop the hands need not be scratched, nor the crops injured by the handles tearing them down.

The set shows the most common and useful of the various forms in which the "Planet Jr." Combined Horse Tool can be set up.

If you are gardening, you need to read their catalog and learn more about these wonderful machines. It's free.

Shipments to Sterilized Air.

Dr. A. Perkins, now a resident of Chicago, has patented a process of keeping meats during transportation without ice, by the use of sterilized air. A contract has been concluded between him and J. M. Smart of Melbourne, manager of the Australian Meat Transportation Corporation, Limited, for the use of the process in the seven colonies of Australia. A corporation is also about to be formed, with headquarters in Chicago, to control the process over the railroad lines of this continent and the steamship lines running from the ports of North and South America.

"THE SOUTHLAND QUEEN."

You ought to know what you are missing by not reading The Southland Queen, the only Bee-Journal published in the South; and the only beekeeping teacher. Mrs. Jennie A. Laidley, through its columns, how to raise queens, bees, and honey, and in fact how to make everything a success. It is a most valuable subscription price for a whole year, \$1. A steam heating factory, Boston's goods, and all the best supplies. You will know where to arrange for your queen, and a free catalog that tells all about queen rearing. Address, THE SOUTHLAND QUEEN, 100 N. Main St., New York.

THE APIARY.

Humming.

Bee propolis is a good cement for alops pails, poultry water-dishes, etc.

The life of a bee depends upon the work it does. When it labors its life is short.

Take out surplus honey now and keep the bees at work on a new supply for Winter.

An old superstition has it that whenever the red cloud of war hangs over Europe, the bees will be idle.

Keep your eyes on the old combs. Moth larvae will, very likely, be in them along with pollen. In this case sulphur them.

Virgil, the great Latin poet, who wrote four poems on different agricultural themes, devotes one of these Georgics, as they are called, entirely to bees.

It is proposed that the apiarists of the United States unite in raising a fund for the purpose of erecting a fitting monument to the memory of the Rev. L. L. Langstroth—"Father Langstroth," as all beekeepers love to call him.

Beekeeping is a poor man's business, and the poorer he is the less excuse he can find for not having plenty of honey for himself and family to eat. Bees are no respecters of persons; they will work as well for a peasant as for a prince.

In melting candied extracted honey, the temperature should not go above 180 degrees; otherwise the fine flavor will, in large measure, be destroyed. The usual way is to place the vessel of candied honey in another larger receptacle containing hot water.

The medicinal properties of honey are well understood by mothers and nurses, who have faith in old-time remedies, and are admitted by the medical profession. Its value in the treatment of coughs, colds and pulmonary affections, also in various kidney complaints, has been tested and approved for ages. There are many cases where sugar is prohibited in which honey is used with special benefit.

Many instances are recorded where orchards and vineyards have been planted, but failed to produce fruit until bees were brought into the neighborhood. All kinds of fruit will yield much larger crops of more perfect fruit in localities where there are bees than where there are no bees kept, and some kinds, such as strawberries, plums and cherries, will hardly bear without the process of bees.

SUCCESS IN BEEKEEPING.

It Depends on Honest Effort and a Close Study of the Business.

Bees, although domestic, are independent of man's care, as many colonies exist to-day in forest trees far from the reach of man's protective aid, and their forest home, being sought by themselves, is oftentimes better than the one given them by man; besides, the bees of the apiary have to yield up half, if not more, of their stores for the labor bestowed upon them by their owners, which is usually the putting on and the taking off of the honey receptacles; also, the bees of the forest, I dare say, rarely, if ever, succumb to the rigor of the cold Winters of the North, while beekeepers look forward to Spring with uneasy hopefulness as to what it may bring forth.

Owing to the cold Winters, beekeeping can never be made as profitable in the North as in the South. Especially is this true if the beekeeper neglects his bees in preparing them in the Fall for Winter, as nothing cuts profits so badly as negligence.

Fifty pounds of comb-honey per colony is considered a fair average yield in the North, while in the South 150 pounds is only an ordinary yield for one colony; but when we consider that bees are allowed to work only five months of the year in the North, the other seven months they must remain idle, and then, owing to rainy weather and dearth of honey, only a portion of the five working months is occupied in real hard labor, we wonder as to how the little workers can provide for themselves and a liberal amount for their owner, who sometimes takes more than his share, leaving the bees deficient in stores and ruining them for next Summer's harvest. The quantity required to winter a good, strong colony is about 30 pounds (for these latitudes from 40 to 45); but a small colony may require much less food, and as a result will be much less in population at the time of the honey flow, when every bee adds to the quantity of honey stored. However, in either case, if the 30 pounds of feed is not consumed, it will do no harm in the hive, providing the hive is large enough, and it should be to give the queen abundance of room to lay; while the colony that falls short of stores in the early Spring will be a weak colony, if not a dead one, at the commencement of the honey flow, and only a vexation the entire Summer.

One thing is certain: If we wish to make beekeeping a success, we must see that our bees have abundance of good honey in the brood chamber for Winter stores, and this inspection should take place when the surplus honey is removed from the hive in the Fall.

If any colony should be found deficient in stores, feed them until they have sufficient, or quit the business entirely. The two best ways to feed are by using combs of honey or empty combs, filled with sirup, placed in the hive, and by the use of a feeder, which can be obtained of almost any dealer in apianian supplies. If one is so situated that he cannot use either of the above ways, a home-made feeder must be resorted to. This is taking a glass fruit can, filling it with sirup, lying over the top

piece of flannel, and inverting it upon the frames. This feeding should be done in the Fall, although it can be done, to some extent, on warm, sunny days in Winter, if the bees are roused up and the feed put as close to the cluster as possible. If Winter has caught your bees short in stores, try some means to aid them by feeding, for every pound fed them will be paid back to their owner, if the next season should prove one of a fair honey flow.

Another obstacle in the way of successful wintering is single-walled hives that are left unprotected on the Summer stands. For all who winter their bees on the Summer stands a double-walled chaff hive is an indispensable article. I make my hives double-walled on all sides, allowing a space of three inches on each side, except the front, for chaff. The front is a double wall without space for chaff, as packing in the front has a tendency to keep the hive cool in early Spring, and make the bees backward about flying, and a good cleansing flight in early Spring is highly beneficial.

The packing is left about the hive all Summer, only that being taken out which covered the frames, to make room for the supers. This packing about the hive, with plenty of ventilation at the top and bottom of the hive, aids greatly toward the prevention of swarming, the one object at which to aim if we expect a good lot of surplus honey. Of course, plenty of room must be given in the surplus departments, as well as in the brood chamber, and I find for the best results a brood chamber holding about 3,000 cubic inches leads all others in the production of comb honey, as a brood chamber of this size means plenty of stores, without feeding, if the honey season has been a favorable one; plenty of stores mean strong colonies, and strong colonies mean big harvests, though the honey flow may be short.

In constructing a hive, the brood chamber should be as nearly square as possible, or even if it is a little deeper than it is long or wide it would do no harm; and having done all that lies within our power in constructing a good hive and preparing our bees for Winter, we must wait till Spring for results, which will be good if we have done our part, as success in beekeeping does not depend on chance, as many suppose, but upon honest effort and the study of the business.—A KEEPER OF BEES.

Young Queens Bred Late.

We know that a great many beekeepers practice re-queening late in the Summer, after the honey-flow ceases, says Canadian Bee Journal. The question may well be asked: Is this a good practice in all localities? It is known that queens answering the above description continue to lay for a greater length of time after the honey-flow ceases and are generally more readily stimulated to brood-rearing. In some localities there is a scant Fall pasture for bees sufficient to keep them breeding, and this is liable to be so late that young bees do not get a cleansing flight before they go into Winter quarters. When you add to this a young queen the danger is very much intensified. A large number of our best beekeepers are ready to admit that if the honey-flow stops after the linden flow, and there is no more brood-rearing, the bees retain in that quiescent condition their vitality. There is, as it were, in nature an evening up. No honey-gathering, no breeding, no (or little) loss of vitality; honey-gathering, loss of vitality and breeding. Again, a still larger number admit that young bees must have a cleansing flight before going into Winter quarters. If they do not get this flight they are restless, become diseased and die and probably disturb the older and well-matured bees in the hive, setting up disease and death. We should very much like to have the opinions and experiences of our readers on the above subject.

Selling Honey on Commission.

Commenting on Chicago as the great center for selling honey, the editor of the American Bee Journal says: "We have just been talking with the head of what we consider the largest firm of Chicago honey dealers, about selling honey on commission. We asked particularly about the amount or per cent. charged for handling honey, and his reply was that on a shipment which sells for less than \$100 gross their rule was to charge 10 per cent. On any shipment selling for over \$100 they deduct 5 per cent. for their commission. We believe this is about right.

"The gentleman referred to above agreed with us in thinking Chicago the principal honey-distributing point in this country. As nearly as we are able to learn (and we believe it is not far out of the way), since the season for shipping honey opened for 1895 there have been shipped to the Chicago market up to this time about 60 carloads. That means about 600 tons, or 1,200,000 pounds of honey. And that would be only about one pound for each person living in Chicago! Surely that one pound wouldn't last very long, and, probably a week. Then, something like 50 times this amount might be consumed here every year, if it were properly distributed among the people.

"Beekeepers have a great work ahead of them, if the public is ever to be educated to use honey as it deserves to be used. Let every one do his share to popularize the consumption of the best sweet known—honey."

What One Woman Does.

Miss C. H. Lippincott, of Minneapolis, Minn., has in the past seven years built up one of the largest businesses presided over by a woman in the United States. She sells flower seeds, and her handsome catalogue is now ready and will be mailed upon request to any reader of this paper. It is an artistic and dainty publication in every way, and will be appreciated by all who love flowers. A new departure in the catalogue is stating the number of seeds contained in each packet.

A BARGAIN COLLECTION OF FLOWER SEEDS

16 Colors Annuals, 100 seeds each, 10c. 16 Colors Perennials, 100 seeds each, 10c. 16 Colors Bulbs, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Vegetables, 100 seeds each, 10c. 16 Colors Grasses, 100 seeds each, 10c. 16 Colors Trees, 100 seeds each, 10c. 16 Colors Shrubs, 100 seeds each, 10c. 16 Colors Herbs, 100 seeds each, 10c. 16 Colors Flowers, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Vegetables, 100 seeds each, 10c. 16 Colors Grasses, 100 seeds each, 10c. 16 Colors Trees, 100 seeds each, 10c. 16 Colors Shrubs, 100 seeds each, 10c. 16 Colors Herbs, 100 seeds each, 10c. 16 Colors Flowers, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Vegetables, 100 seeds each, 10c. 16 Colors Grasses, 100 seeds each, 10c. 16 Colors Trees, 100 seeds each, 10c. 16 Colors Shrubs, 100 seeds each, 10c. 16 Colors Herbs, 100 seeds each, 10c. 16 Colors Flowers, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Vegetables, 100 seeds each, 10c. 16 Colors Grasses, 100 seeds each, 10c. 16 Colors Trees, 100 seeds each, 10c. 16 Colors Shrubs, 100 seeds each, 10c. 16 Colors Herbs, 100 seeds each, 10c. 16 Colors Flowers, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Vegetables, 100 seeds each, 10c. 16 Colors Grasses, 100 seeds each, 10c. 16 Colors Trees, 100 seeds each, 10c. 16 Colors Shrubs, 100 seeds each, 10c. 16 Colors Herbs, 100 seeds each, 10c. 16 Colors Flowers, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Vegetables, 100 seeds each, 10c. 16 Colors Grasses, 100 seeds each, 10c. 16 Colors Trees, 100 seeds each, 10c. 16 Colors Shrubs, 100 seeds each, 10c. 16 Colors Herbs, 100 seeds each, 10c. 16 Colors Flowers, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Vegetables, 100 seeds each, 10c. 16 Colors Grasses, 100 seeds each, 10c. 16 Colors Trees, 100 seeds each, 10c. 16 Colors Shrubs, 100 seeds each, 10c. 16 Colors Herbs, 100 seeds each, 10c. 16 Colors Flowers, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Vegetables, 100 seeds each, 10c. 16 Colors Grasses, 100 seeds each, 10c. 16 Colors Trees, 100 seeds each, 10c. 16 Colors Shrubs, 100 seeds each, 10c. 16 Colors Herbs, 100 seeds each, 10c. 16 Colors Flowers, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Vegetables, 100 seeds each, 10c. 16 Colors Grasses, 100 seeds each, 10c. 16 Colors Trees, 100 seeds each, 10c. 16 Colors Shrubs, 100 seeds each, 10c. 16 Colors Herbs, 100 seeds each, 10c. 16 Colors Flowers, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Vegetables, 100 seeds each, 10c. 16 Colors Grasses, 100 seeds each, 10c. 16 Colors Trees, 100 seeds each, 10c. 16 Colors Shrubs, 100 seeds each, 10c. 16 Colors Herbs, 100 seeds each, 10c. 16 Colors Flowers, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Vegetables, 100 seeds each, 10c. 16 Colors Grasses, 100 seeds each, 10c. 16 Colors Trees, 100 seeds each, 10c. 16 Colors Shrubs, 100 seeds each, 10c. 16 Colors Herbs, 100 seeds each, 10c. 16 Colors Flowers, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Vegetables, 100 seeds each, 10c. 16 Colors Grasses, 100 seeds each, 10c. 16 Colors Trees, 100 seeds each, 10c. 16 Colors Shrubs, 100 seeds each, 10c. 16 Colors Herbs, 100 seeds each, 10c. 16 Colors Flowers, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Vegetables, 100 seeds each, 10c. 16 Colors Grasses, 100 seeds each, 10c. 16 Colors Trees, 100 seeds each, 10c. 16 Colors Shrubs, 100 seeds each, 10c. 16 Colors Herbs, 100 seeds each, 10c. 16 Colors Flowers, 100 seeds each, 10c. 16 Colors Fruits, 100 seeds each, 10c. 16 Colors Veget

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77TH YEAR.

THE AMERICAN FARMER.

"O fortunatus nimis sua si bona norit agricola." - VIRG.

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TO ALL TO WHOM THIS PAPER SHALL COME.

Greeting: This paper is sent you that you may have an opportunity to see it and examine it, with a view to subscribing. We ask you to compare its contents, objects, and price with those of other papers, and see if you do not come to the conclusion that you ought to have it; that you cannot afford to do without it. We can assure you that if you send in your name for one year that you will find it one of the most profitable investments that you can make. We hope to make and keep it so interesting that you will think that every number more than repays you for the subscription price for a year. Please call your neighbor's attention to the paper.

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The American Farmer Will be Sent in Connection With Any Other Paper or Magazine.

We will send THE AMERICAN FARMER and any other paper or magazine in the country at a reduced rate for the two. The following is a partial list of the periodicals that we club with:

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Country Clubber. 4.00. 5.00.

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DEFEAT OF THE TARIFF BILL.

It is much to be feared that all hope of amending the present condition of affairs by the passage of the House Tariff Bill has been brought to naught by the action of the Populist Senators and of four bolting Republicans—Teller, of Colorado; Mantle, of Montana; Carter, of Montana; and Dubois, of Idaho.

For their conduct, as well as for that of all who voted against the bill, there is simply no defense. No one denies that the Treasury must have more revenue. It cannot go on borrowing from month to month, with each monthly balance sheet showing that its expenditures are millions of dollars greater than its receipts. This, in time of peace, is disgraceful. In addition to being radically unjust, the present Tariff has clearly demonstrated that it is incapable of producing sufficient revenue to meet the needs of the Government. The House Bill was a temporary measure, intended to meet an emergency, and it is generally believed that it would be adequate to the emergency. This was the main consideration, and the consideration which should have impelled the Senators of every political creed to support it. This was a matter of patriotism and business propriety alike, and above partisan considerations. The Democrats who voted against it had the excuse—not a good one, by any means, but still an excuse—that the Republicans have the responsibility for the financial management of the country, and it is no part of Democratic duty to help them out of a hole. Probably this ignoble and insufficient pretext is also available for the Populists. Certainly it is not for the bolting Republicans. They base their action on their devotion to Free Silver. This is exasperatingly idiotic. It has reduced the number of friends of Free Silver more than any other occurrence for a year. There is no possible way in which the cause of Free Coinage can be advanced by such wretched tactics.

It is exceedingly unfortunate that a few short-sighted demagogues have the power at this time to do the people an immense amount of harm.

THE DUTY ON HAY.

The National Hay Association is making a determined effort to get an advance in the protective rates on hay. A petition has been placed in the hands of some 2,800 men, representing 250,000 men, by the Hay Trade Journal. This will be signed by all of these and many more, and it is hoped that it will produce a strong effect upon Congress. Owing to the attitude of the five bolting Republican Senators, and that of the six Populists, but little is hoped for the present session, but the effort will be continued, in the expectation of a better condition of things in the future. In the circular sent out it is said:

One of its objects being, that of greater protection to American Agriculture, and as the hay interests of the States have grown from a product of 19,083,896 tons in 1880, to that of 20,000,000 tons in 1894, representing a value of \$600,000,000, and standing second in value of farm products of America, it has been deemed advisable to impress upon Congress the wish of the people by presenting a petition, as with other effect.

It should also be remembered that imported hay has not only made prices in American markets during the present season, but also during preceding years, the imports for the year ended June 30th, 1895, being 201,909 long tons, valued at \$1,433,516, and for the five months following, to November 30th, 1895, 132,162 tons, valued at \$1,137,382, or nearly as much in the first instance as the total during the three years prior, 1891-3, when the imports of hay were valued at \$2,125,367, an average of \$708,455 per year.

On the principle that one party with 10 cents of hay, or any other product, can make the price on his competitors 100 in any market, it is plainly shown that under the present rate of duty, imported hay is able to fix prices at which the American product must be sold, whether the crop is abundant or otherwise, and is compelling Uncle Sam to borrow to meet running expenses, instead of putting into his pockets that which would enable him to pay his hired help, and lay aside a sum to liquidate the mortgage now upon his farm.

The McKinley Bill imposed a duty of \$4 a ton on hay, and under this the hay trade, especially of the West, developed enormously. This development was arrested and of that Canada greatly promoted by the adoption of the Wilson Iniquity. The bill recently passed by the House and defeated by the bolting Republicans and the Populists of the Senate increased the duty on hay to \$2.30 per ton.

In Congress last week, one Representative accused the Populists of trying to cross the centiped with the hog, so as to produce 100 hams for each pig, and the strawberry with the milkweed, so as to grow cream and berries on the same plant.

You can get more valuable reading matter and practical information in THE AMERICAN FARMER for less money than in any other publication offered you. You will miss a great deal unless you secure it regularly.

BACTERIA IN GRAIN.

In their hunt for pretexts upon which to shut out foreign agricultural products the German professors have gravely announced that they have discovered immense quantities of bacteria in foreign grain, and that these are so lively that they are not destroyed by heat of the oven.

The matter was brought to the attention of the Reichstag by an Agrarian member, when it presently appeared that the German Government had already been making an inquiry. The Director of Public Health reported that 16 German and 17 foreign samples of grain had been examined for bacteria. The purest was the American; then came Moravian, Bohemian and Hungarian barley; the most impure was Turkish rye. In one gramme of German wheat 14,000 to 230,000 bacteria were found; in Russian, 256,000 to 309,000; in La-Plata wheat only 5,000. A sample which showed 859,000 bacteria, in Rostock, showed 14 days later in Berlin only 150,000, so rapidly does the germ disappear.

Of course, they can find bacteria in grain. Anybody knows that. Bacteria exist practically everywhere, and in everything that is not too hot or too cold for their existence. The mistake is in assuming that all bacteria are dangerous. On the contrary, very much the larger proportion—nearly all in fact—are either innocuous or absolutely necessary for health. Very many of them are indispensable to health. Digestion, assimilation, and other processes could not go on without them.

The German Government has been compelled to decide correctly that none of the bacteria found in the sound grain are prejudicial, and all of them are destroyed by oven-heat. But it will soon be something else. The German Agrarians are determined to shut out foreign grain as they have shut out American meat and other products.

RAPE SEED.

Prof. Thos. Shaw, who is doing our farmers an immense benefit by insisting upon their awaking to the value of rape as a forage crop, is confident that we can and should grow all of the immense amount of seed that we shall require, but thinks that this cannot be done in the States bordering on Canada, because of the cold weather. This will become a profitable business for the farmers of Kentucky, Virginia, Tennessee, Oklahoma, West Virginia, and Maryland. At the present rate of development it will soon require millions of pounds of rape seed to supply the farmers who are going into raising the plant for forage purposes. At present all this is imported from England.

In England the rape which is to grow seed is sown in Summer. It is pastured in the Autumn following, and the next Spring the plants produce seed. In the United States, with lower Winter temperature, it would be well, perhaps, not to pasture it closely in the Autumn when it is wanted for seed. But actual trial only can positively determine the best mode or modes of growing this crop for seed.

TARIFF ON AGRICULTURAL PRODUCTS.

The following shows the ratings on some agricultural products under the McKinley and Wilson Bills:

1890. 1894.

Hay . . . \$4.00 per ton. \$2.30 per ton.

Eggs . . . 5c. per dozen. 3c. per dozen.

Honey . . . 20c. per gallon. 30c. per gallon.

Flax Seed . . . 30c. per bushel. 20c. per bushel.

Peas . . . 25c. " " 15c. " "

Onions . . . 40c. " " 30c. " "

Hops . . . 15c. per pound. 8c. per pound.

Cheese . . . 6c. " " 4c. " "

Butter . . . 6c. " " 4c. " "

Apples . . . 25c. per bushel. 30c. c. ad val.

Buckwheat . . . 15c. " " 20c. " "

Corn . . . 15c. " " 20c. " "

Oats . . . 15c. " " 20c. " "

Rye . . . 10c. " " 20c. " "

Wheat . . . 25c. " " 30c. " "

Barley . . . 25c. " " 30c. " "

Barley Malt . . . 45c. " " 40c. " "

Beans . . . 40c. " " 30c. " "

Pears . . . 40c. " " 30c. " "

Straw . . . 30c. c. ad val. 25c. " "

One of the clamors which resulted in the passage of the Wilson Iniquity was over the amount of shoddy imported into this country, and used for workmen's clothes. It will be remembered that the Sockless Simpson made a sensation in the House by exhibiting a shoddy overcoat. The best commentary on this demagoguery is that last year the imports of shoddy into the country were very much higher than ever before. There was more humbug, shysterism and open lying in connection with the Wilson Iniquity than any piece of legislation ever foisted upon the country.

SECRETARY T. S. GOLD.

A Lifelong Worker for Agricultural Education.

Theodore Sedgwick Gold, of Cornwall, Conn., Secretary of the Connecticut State Board of Agriculture, has held that position continuously since the formation of the Board in 1866. He was born at Madison, N. Y., March 2, 1818, graduated from Yale, and in 1845 went to teaching school in Litchfield, Conn. He at once conceived and carried out the notion of an agricultural school.



The curriculum was similar to that of most preparatory schools of the time. It was made to embrace, in addition to these studies, active investigations and work along agricultural lines. The idea was a new one to the farmers of the State, but was immediately accepted as promising good results.

Storrs Agricultural College, which is now receiving liberal support from the State, is one of the outgrowths of Mr. Gold's plans of nearly half a century ago. In 1852 Mr. Gold was one of the originators of the Connecticut State Agricultural Society, and has been identified with its work from the outset. In 1866, when the State Board of Agriculture was organized under act of the Legislature, he was made its first Secretary, and has since held the position. No man in the State has done more for the development of agriculture than Mr. Gold, not less than 50 years of his life having been devoted to State interests in one way or another.

In 1864, during the war period, he secured the adoption of an act by the General Assembly, organizing the Connecticut Soldiers' Orphans' Home, and was its Secretary for 10 years. He is one of the Trustees of Storrs Agricultural College, which now occupies the site of the old Soldiers' Orphans' Home in the town of Mansfield. Mr. Gold has been an editor and writer. He wrote the "Town History of Cornwall," and has prepared and edited the Connecticut Agricultural Reports for 30 years.

M. A. GOLDSTON.

The New President of the National Berkshire Record Association.

M. A. Goldston, who was elected President of the National Berkshire Record Association at the annual meeting at Newark, O., Feb. 13, 1896, was born March 14, 1845, at Lebanon, Tenn. He completed his education at the Cumberland University. After filling various positions he was appointed agent at Lebanon of the Nashville, Chattanooga & St. Louis Railroad, which position he still holds.



In January, 1893, he bought his first registered Berkshire hog and began to raise them on his farm, "Glenwood," one mile South of the Public Square in Lebanon, where he has every convenience for feeding, watering and sheltering, and where he now has a beautiful herd of 30 or more, most of which have been bred there from stock purchased from the finest herds in America, and which is being added to from time to time as the occasion demands. He is prominent in many other walks of life. He is an elder in the Lebanon congregation of the Church of Christ, member of the International Association of Ticket Agents, and has held many high positions in the Knights of Pythias.

JOSHUA STARK.

One of the Directors of the National Berkshire Association.

Joshua Stark, of Granville, O., was born on a farm, and has always been engaged in farming and stock breeding. His education was received from the common schools in the County and at



Denison University. In January, 1892, he bought the finest Berkshire hog he ever owned. From this one sow he has sold over \$200 worth, and has about \$100 worth of her descendants on hand. He has built up his herd from purchases from Mr. J. N. Barker, Indiana; O. P. Wolcott, Charles Ernest, and W. J. Tharp, of Ohio. All of his herd is promising, and bids fair to reach the finest results. Mr. Stark was elected one of the Directors of the National Berkshire Association at its recent meeting at Newark, O.

Irrigation by Windmills.

It was found that in the Arkansas valley water could be obtained by shallow wells ranging in depth from eight to 20 feet. This is raised by hundreds of windmills into hundreds of small reservoirs constructed at the highest point of each farm. The uniform eastward slope of the plains is seven feet to the mile. The indefatigable Kansas wind keeps the mills in active operation, and the reservoirs are always full of water, which is drawn off as it is required for purposes of irrigation. These small individual pumping-plants have certain advantages over the canal systems which prevail elsewhere. The irrigator has no entangling alliances with companies or co-operative associations, and is able to manage the water-supply without deferring to the convenience of others or yielding obedience to rules and regulations essential to the orderly administration of systems which supply large numbers of consumers. The original cost of such a plant, exclusive of the farmer's own labor in constructing his reservoirs and ditches, is \$200, and the plant suffices for 10 acres. The farmer thus pays \$20 per acre for a perpetual guaranty of sufficient "rain" to produce bountiful crops; but to this cost must be added \$2 per acre as the annual price of maintaining the system.

PERSONAL.

The statement that Secretary Morton suggests the creation of a new position to be called the "Director of Scientific Divisions" in the Department of Agriculture, for the purpose of providing a permanent place for the Assistant Secretary of Agriculture, Dr. Charles W. Dabney, Jr., is denied. Dr. Dabney will, on the 4th of March, 1897, by the unanimous request of the Board of Regents of the University of Tennessee, resume his Presidency of that flourishing institution. It was with great reluctance that they parted with him, even for four years, and he will return with pleasure to his chosen vocation.

February 13, J. T. Lambert, a wealthy farmer, was found murdered in his house at Fall Leaf, a remote station northeast of Lawrence, Kans. The murderers literally chopped the old man to pieces. The crime was committed with an ax during the absence of Lambert's son and daughter. Robbery was evidently the motive.

Col. John S. Cunningham, of North Carolina, is said to be the owner of the largest tobacco farm in the United States. He had nearly 3,000,000 hills to cultivate and harvest last year.

COMPLIMENTS.

EDITOR AMERICAN FARMER: I am taking your paper the second year and like it very much.—M. A. SMITH, Osage Mills, W. Va.

NEW PUBLICATIONS.

WASHINGTON, OR THE REVOLUTION. A drama by Ethel Allen. Part Second. Published by P. T. Sweeney, New York. Price 50 cents.

This is the second volume of the drama founded upon the historic events of the War for American Independence, written by the namesake and relative of Ethel Allen, the Vermont patriot, and carries the reader from Valley Forge to Washington's Inauguration as President of the United States.

VEGETABLES FOR THE HOME GARDEN, compiled and published by W. Atlee Burpee & Co., Philadelphia, Pa. Price 10 cents.

Notes.

"How to Spray, When to Spray, and What Pump to Use." Special Catalog and Price-List of the Gould Manufacturing Co., Seneca Falls, N. Y.

Annual Descriptive Catalog of the Royal Palm Nurseries, Resonator Bros., Ocoee, Fla.

Burpee's Manual of Thoroughbred Stock and Fancy Poultry. W. Atlee Burpee & Co., Philadelphia, Pa.

"Woman—The Same Yesterday, To-day and Tomorrow." "How I Saw Queen Victoria." "Bedding and Table Linens," and other timely and practical articles make *Home Queen* for March particularly helpful. Spring styles are discussed, economy suggested in the "Kitchen," and minute direction given in the "Garden" for the care of the seedlings that will produce the coming Summer flowers.

The great "Lee of Virginia" series, in *Frank Leslie's Popular Monthly*, is continued in the March number with a picturesque and superbly illustrated paper devoted to Maj.-Gen. Henry Lee, of Revolutionary fame. This is "the dashing dragon and splendid center, the chosen of Patrick Henry and the beloved of Washington," a close scholar and impassioned patriot, brilliant scion of a long-distinguished race, Governor of his native State, and perfect type of the Virginia gentleman, rearing his sons in religion, morality and learning, solicitous above all that they should be taught to ride, shoot and tell the truth.

The first of a series of articles on "The Young People of the White House," by Joanna R. Nicholls, is given, with numerous illustrations, in the March number of *Frank Leslie's Pleasant Hours for Boys and Girls*. This number has many other good things that will delight its youthful readers.

In 1884 Eugene Field wrote a story which he called "The Werewolf." When it was finished he laid it aside and a year afterward entirely rewrote it. In 1895 he again took it up and revised it, and during the nine years between that time and his death, in November last, he rewrote it eight times. His last revision pleased him and he decided to print it. But death came too suddenly, and the story was found, unpublished, among his effects. Mrs. Field, concluding to have the story appear, gave it to the editor of *The Ladies' Home Journal*, in which magazine all of Mr. Field's work, outside of his newspaper articles, was presented to the public. The story will be printed in the next issue of the *Journal*, strikingly illustrated by Mr. Howard Pyle.

John R. and William Parry, N. J., proprietors of the Pomona Nurseries, have issued their catalog for the Spring of 1896, and every farmer who contemplates planting either fruit, nut-bearing or ornamental trees should send for this publication before placing his orders. It also describes many varieties of small fruits and vegetables, and a specialty is made of the "Kew" early year, a beau-

Depth of Snow on Ground at 8 P. M., February 24, 1896.



WASHINGTON, D. C., Feb. 25, 1896.

DEPTH OF SNOW.

Eastward of the Mississippi the southern limit of snow at 8 p. m., February 24, was from 50 to 150 miles farther north than on February 17. Over eastern Iowa, northern Illinois, southern Michigan, and northern Ohio from one to six inches of snow has disappeared during the week, while in western New York the depths reported on February 24 were from two to 12 inches less than were shown on the preceding chart. The only section in which there is more snow than was reported last week is a portion of northern New England, where the increase amounts to from two to four inches.

On Feb. 24, 1895, there was from 10 to 20 inches more snow than at this date over the northern portions of Michigan, and while the southern limit last year extended to eastern Tennessee and western North Carolina there was no appreciable depth south of the Lake Region. In northern New England and western North Dakota there is now considerably more snow than there was at the corresponding date of last year.

As compared with the average depth on February 24 of the three preceding Winters there is a marked deficiency in all northern districts, except in western North Dakota and eastern Maine, where there is an excess.

Joel Dracut's intentions:

"Oh, yes! I know you intend to do things, Joel Dracut!"

Mr. Dracut's voice was high and shrill, his pale-blue eyes sparkled with indignation. Her thin, sorrow face had a certain pretty girl when she had married Joel Dracut, but that was long ago, and her loss of bloom and spirit had been largely due to the way Joel had "turned out."

The cause of her unrealized expectations can be inferred from the burning words in which she now addressed Joel.

"You've always been intending to do things, Joel Dracut! There's things you intended to do 15 years ago that I don't know yet? You've intended to paint and fix up the house; you've intended to put in a cellar and build a porch."

"You've intended to sod the yard; you've intended for years to dig a well; so we wouldn't have to carry all our water across from Simon Hill's well."

"You've intended to fix up our smoking old chimneys and put in window-sights and repair this leaky roof and fix up the fence and build a cow-shed and get me a sewing machine, and goodness only knows what else you've intended to do. And have you done any of these things, Joel Dracut—have you?"

The shiftless, good-natured looking man, sitting on the kitchen doorstep, whistling a tiny basket out of a peach skin, made no reply.

If Joel felt his guilt it did not disturb him even a little. There was no resentment in his twinkling blue eyes. "There was dead silence for fully a minute, then he looked up and said, gently and smilingly:

"Sho, Letty."

"Is that all you've got to say, Joel Dracut?"

"Yes, 'tis, Letty. I aint even intendin' to say anything more."

"You'd never say it if it came out like the other things you've been intending to do. Just let me hear you say that you intend to do a thing, and I know it'll never be done. But now I intend to do something, Joel!"

She stepped rocking in the creaking old rocking chair in which she was seated and leaned forward, shaking one finger warningly.

"Yes, Joel Dracut, I'm going to do something, and it's this:

"I'm going to take the children and go back to father's to stay until you've done everything about this run-down old place that you've been intending to do for 15 years."

He looked up and said again, "Sho, Letty."

"I mean every word of it, Joel. I'm simply ashamed to live this way any longer. I'm ashamed to fetch our children up in such surroundings."

"Father will be glad enough to have me at home again, now that mother's dead, and he's no housekeeper but poor old Aunt Ann. Things are kept up at Joel's place."

"My father works, as it's the bounden duty of every man to work. I'm going to let him rear my children, because their own father ain't fit to do it."

Her voice choked and she said slowly and sadly:

"I never thought when we were married, Joel, that I'd have to leave you for my shame; I never thought when Joel and Letty were babies, that I'd have to take them away from their own father because he didn't provide for them and because he wasn't fit to rear them as I intend my children shall be reared. I never once thought of it, Joel."

He tossed the completed peachstone basket into her lap and said:

"There's something for you to remember me by when you get to your father's, Letty."

He rose from the doorstep, stretched his arms above his head, yawned, and said:

"You want me to go over to the river and catch a mess of fish for supper? They say they're biting fine now."

His wife made no reply, but he took a long fishing-rod from the wooden pegs on which it rested and went across the lane and unlocked little dooryard and on down the dusty road until he was lost to view in the timber.

His wife could hear him whistling cheerily after he was lost to view, and she said sadly:

"He thinks I don't mean it, but he'll find out that I do."

father's on the four o'clock train. We will come back again when you have done all the things so long 'intended' doing, and when you are prepared to provide for us as we have a right to demand and expect."

Joel dropped into a chair, while the note fluttered with his fingers to the floor. His wife had been correct in her surmise that Joel had not thought that she had meant all that she had said to him that morning. Letty had made so many idle threats that Joel had ceased to heed them.

The frugal meal she had set out for him remained untouched, although he had come home hungry.

Letty's note had been a sharp check to his appetite. He picked up the bit of paper and read her lines again and again. Then he got up and walked from one to the other of the silent, deserted rooms in the little house.

Letty might, he thought, be playing a trick on him, and he called softly: "Letty! Letty!"

He peered into closets and even looked under beds, saying as he did so: "You under there, Joey? Where you hiding, Lucy?"

Night came on and he could not stay in the silent house. His wife and children had never before been away from him a single night.

Idle and shiftless as Joel was, he had loved his family, and he had never been harsh to them. He had borne Letty's scolding and reproach meekly and had often tried to soothe her by saying:

"You do have a good deal to put up with, Letty, and I intend to do better, I swan if I don't!" But his will had been too weak for him to keep his promise.

He wandered around in the unkempt and unpropitious little garden back of the house long after night had come on. It seemed to him that he could not go into the house and to his bed without his children's good-night kisses.

He stumbled across something in one of the garden paths. It was a little toy wagon belonging to Joey. One wheel was missing, and Joel said, in self-reproach, as he picked it up:

"The little feller asked me three or four times to fix his wagon, and I intended to. I've intended to do so many things I aint done. I'll do some of them before I sleep, and I'll begin on this wagon."

He carried it into the house and lighted a lamp, which was in itself additional evidence of the failure of some of his good intentions, for the bowl of the lamp wobbled around loosely on the stand, and the burner needed repairs that he had been intending to make for weeks.

He found a hammer and nails and spent an hour repairing the little wagon, and then he hunted up a rocker that had long been missing from Lucy's little chair and fastened it securely in its place.

Joel Dracut was a "handy" with tools of any kind, and about all the money he earned was the result of the "tinkering" he did throughout the neighborhood.

Two weeks of active labor that he was perfectly capable of performing would have brought great changes in his home and lightened poor Letty's labors.

He spent most of the night in bitter self-reproach, and when morning came he looked about the sadly-neglected premises and said frankly:

"I swan if I blame Letty for goin' away from it all."

This conviction strengthened when he undertook to get his own breakfast on a stove with a door that had to be propped up with a crowbar, and a chimney that smoked steadily for nearly an hour.

He saw how poor Letty, who was not "handy" at making repairs, had tried to patch up this or that broken article in her kitchen and pantry.

It was a raw morning, the rain came driving in under the kitchen door, because the weather-strip or door-sill had worn away. Joel realized that he could have put a new sill in its place in an hour, and he had long intended doing so.

"Letty's had her trials, that's sure," admitted Joel.

Meanwhile, Letty was in the neat, pretty home of her childhood. Its contrast to the home she had left was great, but she was far from happy amid her comfortable surroundings. With all his failings she loved Joel, and distance and absence magnified his virtues.

She remembered that her husband had never spoken harshly to her in all their married life. Sometimes when she had been bitter in her scolding reproaches, and had said all the sharp things her indignation could suggest or her tongue frame, he had listened in abashed silence and had put his arms about her and said contritely:

"It's all true, Letty, and it's a pity you ever tied yourself to such a poor stick."

She remembered how Joel had cared for the fretful child through many a long and weary night, that her own rest might be unbroken.

And when Lucy had the diphtheria Joel would allow no one but himself to care for her. He had even shut Letty out of the sick-room, because her throat was naturally sensitive, and he would

not allow her to subject herself to the contagion.

She remembered so many things she had not taken into account when she determined to leave Joel. She was not indifferent to his comfort and she thought of what a wretched time he must be having trying to "do for himself."

She found, too, that her active, noisy children disturbed her father. It had been years since there had been a child in his home, and he was what some people call a "fussy" man. It annoyed him to see even a book out of its proper place, while order was an unknown quantity to his two harum-scarum grandchildren.

There were times when their mother almost longed for the careless freedom of her own home, and she missed Joel's cheery laugh and his unfeeling smile.

She wrote to Joel frequently, but his replies were few and brief, and he did not even suggest her return to her own home.

At the end of six weeks she announced her intention of going to her own home, and her father did not oppose her. He admitted frankly that the children "worried" him and that he was too old to adapt himself to this new order of things in his home.

Letty could not tear her love for her children's father from her heart. She did not write to Joel of her intended return. It was but a 10-minute walk from the railroad station to her own home.

She half feared that Joel might forbid her return if he knew of it, and the surprise would be all the more complete and delightful if he wanted her to come back.

It was about 10 in the morning when she reached the station near her own home, after an all-night ride. Her home was but half a mile from the station, and she had walked half the distance with her children when she suddenly met Joel face to face at a sharp turn in the road. It had been years since she had seen him so neatly dressed. He had a new sachel in his hand, and his first words were:

"Why, Letty, I was on my way to take the 10:35 train to fetch you home."

He knelt down in the dusty road with an arm around each of the children, and kissed them with tearful eyes.

"I'm sorry I went away as I did, Joel," said Letty, quietly.

"And I'm glad," said Joel. "You'll know why pretty soon."

He put his arm around her as they walked homeward with the children running on before them.

Another turn in the road brought the house into full view a few rods from them.

"Why Joel," said Letty, in the utmost surprise, for the house she saw bore no resemblance to the house she had left.

Behind a snowy-white picket fence stood a little cottage, shining in its new coats of white and straw-colored paint. A broad piazza ran along the entire front of the house, the dooryard was newly sodded, and all the unsightly litter of years had been removed.

Under the old oak tree in the yard was a new pump to prove that Joel's "long-intended" well had become a reality.

The house had a new roof, and not a pane of glass was missing. The out-buildings had been repaired and painted. The interior of the house was in harmony with the changed exterior. There was new paper on the walls, and everything was in perfect repair.

"You see I've done all the things you said I must do before you'd come home," said Joel, "and I did it about all myself. I aint furnished the house up any, because I reckoned you'd rather enjoy doing that yourself."

"But the money, Joel? It's all beautiful, but how could you afford to do it?"

"Well, the day after you left, I got word that my Aunt Harriet had died over in Hawleyville, and left me \$800, and I reckoned I couldn't put it to better use than to do some of the things I've intended to do for you. I've fixed things up to the best I could, and they're going to stay fixed up, Letty."

"I've got a steady job over in Taylor's factory, and I've broken my old fishing rod and sold my shotgun, and it won't be my fault if you're ashamed of me hereafter."

"I am ashamed of myself," said Letty.

"You've no call to be," replied Joel, decidedly. "All the past is buried, and we won't rake it up. Come around to the back of the house and see how you like the new cellar."—Houshold.

Too Easy.

New Boarder—What do we get for dinner to-night?

Old Boarder—This is the night we usually have chicken.

New Boarder—That's not half bad. Do we often get chicken?

Old Boarder—Oh, about three times a week.

New Boarder—Well, by Jove! That's pretty fine; but I don't see how Mrs. Skinner can afford it.

Old Boarder—Oh, it's the same chicken.—Brooklyn Life.

Folding Sawing Machine.

For the benefit of our readers who have word to saw we call attention to the Folding Sawing Machine, which is made by the Folding Sawing Machine Company of 63 to 65 South Clinton Street, Chicago, Ill. It is a machine that makes wood sawing easy in comparison with the old way of sawing. This machine can be folded up and easily carried to the woods on a man's shoulder. It saws down trees and saws the tree up into any lengths desired after it is cut down, and always cuts the log square in two. One man can saw more wood with it than two men can saw with the old way in any other way, as he never has to bend his back or get down on his knees in the mud or snow.

Don't see your wood until you have thoroughly investigated the merits of this great labor and money saving machine. Send for illustrated catalogue.

THE ENIGMA.

ENIGMATICS—NO. 21.	
172—C	173—O
BAR	COB
CHERUB	FOCUS
CRICKETER	FURPLED
MARSHAL	GOBBLEDEY
BATTALION	COMBINATION
BRILLIANT	SULCATION
DRESS	SERIES
DOM	DRUM
W	WEN
171—Thought.	174—So—thought.
175—C	176—O
CALIFAN	VATAN
AVATAR	BATORS
LAVATIO	TAMABAO
ATVITUH	ITOPHOBIA
PATERAR	GORICAR
ARTSALG	ARABIA
177—Margin; Arming.	179—One; One.
178—C	179—X
MAP	OYF
CAYN	PALAS
CANDLES	PIROLES
MANTLER	COGOLANK
VALUETRY	ACIOPHOBIA
PILLAGING	PALLADIUM
NEEDING	SEAGIRT
STGO	ABOUT
STGO	KUM
181—JARANKE	183—BATTERA
ANACAPA	AHERMAN
RAYAGER	THIRING
ACAPULCO	THIRING
WAGELAL	THIRING
SPREATER	THIRING
RACER	THIRING
180—Spelled. (Oil; Sped.)	185—C
184—C	185—O
ARM	SUA
SLIPS	STOOL
BALAMIS	SARMENT
ALAMOTYI	STREAMTIN
CERAMIC	THIRING
MEMORIALS	ALMENDARS
SITUATE	ENTRAPS
STARS	THIRING
ITS	NES



A Long-Lost Brother.
The merriest one full cheek blased,
And then he kissed the other.
"Sir!" cried the maid in knicker arrayed,
"I'll go and tell my mother!"
He answered: "What! And are you not
My long-lost little brother?"



A Little Girl's Wish.
"Mamma! I'm a boy!" said our Mary,
The tears in her great eyes of blue,
"I'm only a wee little lassie,
There's nothing a woman can do."
"Yes so, I heard Cousin John say so,
He's home from a great college, too;
He said so just now, in the parlor,
"There's nothing a woman can do."
"Wee little lassie, my darling,"
Said I, putting back her soft hair,
"I want you, my dear little maiden,
To smooth away all mother's care."
"Is there nothing you can do, my darling?
What was that 'no' said last night?"
"My own little sunbeam has been here,
I know, for the room is so bright."
"And there is a secret, my Mary,
Perhaps you may learn it some day—
The hand that is willing and loving
Will do the most work on the way."

A Good Mood.
Tired Husband—I've had a terrible
day at the office and I'm mad clear
through.
Wife—Now would be a good time for
you to beat those rugs.—*Truth.*

Every Rose Has Its Thorn.



A Lady in skirts, Mr. Mushy, never knows half the delights of skating



A lady in skirts, Mr. Mushy, never knows half the delights of skating

Tommy's Garden.
"I understand you have a fine garden,
Tommy."
"Yeth."
"What do you raise in it chiefly?"
"Taty-bugs," said Tommy.—*Harper's Bazar.*

Why He Stopped His Paper.
A recent subscriber to a Georgia
newspaper writes to the editor to stop
his paper, and makes this explanation:
"I think people ought to spend their
money for puppers my daddy didn't and
everybody else he was the intelligent
man in the kentry and had the smart-
est family of boys that ever dug taters."
—*Atlanta Constitution.*

Liked the New Plan.
Mrs. De Fadd—The latest fashion is
to have the piano built into the wall.
Mr. De Fadd (wearily)—Well, that's
sensible. Let's wall up ours.—*New
York Weekly.*

A Refusal.
"I have come to ask for your
daughter's hand, Mr. Herrick," said
young Waller, nervously.
"Oh—well, you can't have it," said
Herrick. "I'm not doing out my
daughter on the instalment plan. When
you feel that you can support the whole
girl you may call again."—*Harper's
Bazar.*

The Three "Wakes."

Mike O'Flannigan—Well, how be's
your marinn, Pat?
Pat McArthur—Sure, I'm that wake
that ye'll be comin' to me wake befor
the end of the wake.—*The
American.*

THE CHILDREN'S SCRAPBOOK

How Many Claws Has Our Old Cat?

"How many claws has our old cat?"
Asked Eddie. "Who can tell me that?"
"Oh! that," said Harry, "everyone knows—
As many as you have fingers and toes."
"Yeth," lisped Ethel, "she's jist got twenty;
Five on each foot, and I think it's a plenty."
"Yeth," said Bertie, "just five times four;
That makes twenty—no less nor more."
"Wrong," said Eddie. "That's easily seen;
Catch her and count 'em—she has eighteen."
"Cats on each of their two hind paws
Have only four, and not five, claws."
—*St. Nicholas.*

A Little Girl's Wish.

"Mamma! I'm a boy!" said our Mary,
The tears in her great eyes of blue,
"I'm only a wee little lassie,
There's nothing a woman can do."
"Yes so, I heard Cousin John say so,
He's home from a great college, too;
He said so just now, in the parlor,
"There's nothing a woman can do."
"Wee little lassie, my darling,"
Said I, putting back her soft hair,
"I want you, my dear little maiden,
To smooth away all mother's care."
"Is there nothing you can do, my darling?
What was that 'no' said last night?"
"My own little sunbeam has been here,
I know, for the room is so bright."
"And there is a secret, my Mary,
Perhaps you may learn it some day—
The hand that is willing and loving
Will do the most work on the way."

Clippings.

The letter "O" sounds odd for a
name, but there is a distinguished family
in Belgium whose name is O, no more
and no less.

Eskimos give the doctor his fee as
soon as he comes. If the patient re-
covers he keeps it; otherwise he returns
it.

Habits, soft and pliant at first, are
like some coral stones, which are easily
cut when first quarried, but soon become
hard as adamant.—*SPURGEON.*

The word "good" has the same root
and the same meaning as God. Good-
bye means God be with you. Good-
night is God guard the night.

The voice can be heard to a greater
distance through a speaking-tube than
through the air, because the sound is
confined to the air within the tube, and
the tube itself is a good conductor.

Tabby, the name of a well-known
species of cat, was formerly atabi, which
was a term used to designate a peculiar
pattern in the silk manufactured in
Persia. The markings in the fur of the
cat resemble the pattern in the silk,
hence the double application of the name.

When a youthful courtier of King
Edward VI, wishing to reach some ob-
ject above him, laid down the great
Bible and stepped upon it, the devout
young king, unwilling to chide his
friend, yet honoring the Holy Book,
lifted the sacred volume from the floor,
reverently kissed it and laid it in its
place.

The Cat that Can Skate.

A Harlem boy, Harry Summers by
name, has succeeded in teaching his pet
cat, "Mouser," to skate on ice. Of
course, she was a slow pupil, and it was
quite a month before she could be in-
duced to keep the little skates which
were made for her on her feet; and
even after she had become accustomed
to them she had to be taught to stand
upright, and then coaxed on to the ice.



But Harry was very patient and kind,
and finally succeeded in doing what no
one has ever done before, and is now
reaping his reward in the fun "Mouser"
affords him and his friends. A skating
cat is worth many ordinary trick ani-
mals, and her proud owner has had sev-
eral offers from museum keepers, who
want to buy the clever creature, but
Harry would rather part with his ears
than with his pet, and "Mouser" is not
for sale.

Another Story of Lincoln.

Every school boy should know this
story of Abraham Lincoln's patriotism.
While he was a raftman on the Missis-
sippi he had unloaded his cargo in New
Orleans. The slave market was near and
he chanced, as he walked about, to come
to it. The auctioneer's hammer fell,
and wives wept upon the necks of their
husbands for the last time, and children
were torn from their mother's arms for-
ever. The raftsmen's heart went out to
these persecuted people. At last he
whispered to his fellow-raftsmen, "If
ever I get a chance to hit that thing I
will hit it hard, by the eternal God."
The Emancipation Proclamation points
out how well he kept his oath.—*The
American.*

THE DAIRY.

Skimmings.

German scientists report that milk
may be sterilized by electricity.

Everybody is agreed as to the virtue
of the silo as a means of preserving
corn and corn fodder in their best estate.

The largest milk condensing factory
in the world is at Dixon, Ill. It con-
sumes the entire milk product of 6,000
cows.

Lazy men hate Winter dairying.
Industrious and hustling ones follow it
up and make more profit out of it than
out of Summer dairying.

If cream is churned too warm, says a
dairyman, the butter comes soft, of a
pale color, and difficult to separate from
the buttermilk; if too cold, the cream
sometimes foams and butter refuses to
break.

Other things being equal, the dairy
cow or bull with very small horns or no
horns at all is the best one from which
to breed. Therefore, breed the horns
off your dairy cattle if possible.

In England and Scotland the dairy-
maids believe that if they forget to wash
their hands before milking, their cows
will go dry; and this superstition is
diligently fostered by the owners of the
cows.

Butter is easily made good, or it is
easily made bad. With a pure atmo-
sphere for cream and milk, everything
kept sweet and clean, attention to the
condition of the churn, the churning
done at proper time, the results should
be satisfactory, if the milk is untainted
to begin with.

No family should live over a milk-
house, spring-house or creamery. The
dairy should be entirely separate from
the dwelling house. The floors should
be of cement, for this material contains
no crevices in which milk can accumu-
late to decay and make foul the whole
building.

The Illinois Experiment Station has
been experimenting with feeding imma-
ture corn to steers in the pasture, and
the results are found extremely satisfac-
tory. The gains in flesh have been very
rapid.

Never guess at the salt used in salting
butter, any more than you guess at the
temperature of the cream. Weigh it
down to the ounce after you have
weighed the butter. Many experienced
makers daily "lump" the quantity, be-
cause they think experience makes them
technical guessers, but such a method is
unscientific and dangerous.

A bucket of warm water with towels
should always be taken to the stable by
the milkers. The milkers' hands should
be carefully washed before milking, and,
if they become soiled, after milking
each cow. The milking should be done
with dry hands; milking with wet hands
is too unclean to be tolerated.

A new system of packing butter, which
does away with cold chambers, is being
tried in Australia. The butter is packed
in cubical boxes made of glass, the joints
being covered with adhesive grease-
proof paper. The boxes vary in size,
holding from one pound to 200 pounds.
When a box is filled it is covered with
a quarter of an inch of plaster of paris,
and this with prepared paper or canvas.
The plaster, being a non-conductor of
heat, preserves the hermetically-sealed
butter.

German experiments, confirmed by
French tests, have demonstrated that
the feeding of cows has no effect on the
proportion of butter in the dry matter of
milk. Cows of the same breed and fed
in the same way will vary in their yield
of butter between a kilogram from 20
litres of milk and one from 33 litres.
The conclusion reached is that, making
due allowance for the stage of lactation,
for the daily yield of milk, and the
breed, the individual peculiarity of the
cow is the most important factor in the
production of butter.

Eighteen Dairy Points.

A. E. Jones is a successful Wisconsin
dairyman whose cows are registered
Jerseys which make over 300 pounds of
butter per year. His eight years' ex-
perience has led him to the following
conclusions as essential to success:

1. Get rid of the screeb cow.
2. Good cows lead to better methods.
3. Without good feed dairymen is a failure.
4. People will not pay 25 cents for 10 cent butter.
5. It requires brains and gumption to succeed in the dairy.
6. A careless person cannot make good butter.
7. Promptness and honesty always win.
8. The finishing touches are what pays.
9. Cows need shelter from storm and sun.
10. Clean hands invite clean methods.
11. A prosperous dairyman is always polite to his customers.
12. When serving customers always wear clean clothes.
13. Those that make bad butter are easily offended.
14. If you do not like the business, quit.
15. Good butter cannot be made where the surroundings are filthy.
16. Poor butter gives the dairyman a lean purse.
17. Badly-made butter hurts the trade and gives the oleo men a better market.
18. Keep pace with modern improvements.

All for 10 Cents.

By special arrangement you can now get
"American Nation," the beautiful magazine,
one full year for only 10 cents; 46 pages same
size as this. Send silver dime to AMERICAN
NATION CO., Waterville, Me.

THE ORCHARD.

Private Dairies Make the Best Butter.

Private dairies are here to stay, but
they must be properly conducted. The
first essential is a good farm upon which
to raise the necessary fodder. Pure
water is necessary for the cows and for
cooling the milk. Warm stables, good
machinery and machinery houses
must all be had if much profit is expected.
Good cows are the most important fac-
tors. I attach more importance to in-
dividuals than to breed or pedigree.
Get the dairy type, then good indi-
viduals of that type. In 1890 I bought
good cows from \$15 to \$30, cows which
have since produced 400 pounds of
butter per year. In Summer my principal
food is grass, supplemented with
bran and cob meal; in Winter, corn
silage 30 to 35 pounds per day, supple-
mented with four to six quarts of bran
and plenty of straw. Tread power is
used, as it is cheaper than steam. I
have not practiced soiling. All but-
ter is sold at home to private trade at a
uniform price of 25 cents per pound
the year round. I pack it in 25-pound
jars and deliver it to my customers.
My butter maker is a woman from
Scotland. She is most capable, and
gives entire satisfaction. Cream is
churned at 56 to 60 deg. My milkers
are men.—F. D. PIERCE to Wisconsin
Dairymen's Association.

Rocking Churn.

A Kentucky man has recently pat-
ented a churn which is certainly a labor-
saving device, indeed. We are indebted
to *New Ideas* for the cut and the follow-
ing description.

As will be noted, the churn is arranged
on a long rocking seat, so that the

usually irksome duty of churning can
be combined with a pleasant rock and
perusal of the latest novel. It is said
that by the time the "plot begins to
thicken" the cream follows suit, and
before the point is reached where they
"marry and live happily ever after," the
butter is ready to remove to the cooler.

Dobbin's Floating-Borax Soap costs more to
make than any other floating soap made, but the
consumers have no choice but to use it. It is 100
per cent. pure and made of Borax. You know
what that means. Order at your grocer.

Fighting With Cheese.

The following account of a queer bat-
tle is given by the *Pittsburgh Dispatch*:

The most remarkable ammunition ever
heard of was used by the celebrated
Commodore Coe, of the Montevidian
navy, who, in an engagement with Ad-
miral Brown, fired every shot from his lockers.

"What shall we do, sir?" asked his
First Lieutenant.

It looked as if Coe would have to
strike his colors, when it occurred to his
First Lieutenant to use Dutch cheeses as
cannon balls. There happened to be a
large quantity of these on board, and in
a few minutes the fire of the old Santa
Maria (Coe's ship), which had ceased
entirely, was reopened, and Admiral
Brown found more shot flying over his
head. Directly one of them struck his
mainmast, and, as it did so, shattered and
flew in every direction.

"What the dickens is the enemy fir-
ing?" asked Brown. But nobody could
tell. Directly another came in through
a port and killed two men who were
near him, and then, striking the opposite
bulwarks, burst into pieces.

Brown believed it to be some new-
fangled pauxhon or other, and, as four
or five more of them came slap through
his sails, he gave orders to fly away, and
actually backed out of the fight, receiv-
ing a parting broadside of Dutch cheeses.

Tainted Milk.

It is well to notice that certain ab-
normal odors and tastes in milk may be
produced directly by the food eaten by
the cow. If a cow eats garlic or turnip
the flavor of the milk is directly affected.
Various other foods may, in a similar
manner, affect the taste of milk, but this
class of taints may be readily distin-
guished from those due to bacterial
growth. The odors and taints due to
the direct influence of the food are at
their maximum as soon as the milk is
drawn, never increasing afterward. But
the taints due to bacterial growth do not
appear at all in the fresh milk, beginning
to be noticeable only after the bacteria
have had a chance to grow. If, there-
fore, a dairyman has trouble in his milk,
which appears immediately after the
milking, he may look for the cause in
something the cow has eaten. But if
the trouble appears after a few hours,
and then grows rapidly worse until it
reaches a maximum, he may be assured
that the remedy is to be sought, not in
changing the food of the cow, but in
greater care in the management of the
dairy or barn.—*Agricultural Report.*

Lower Priced Watch.

Until the last few years to carry a good
time-keeper meant the investment of a large
amount of money. It remained for the well-
known firm of W. Hill & Co., of Chicago, to
introduce a plan whereby everyone could have
a Watch laid at his door for inspection free
of charge, and not pay a cent until satisfied
the goods were as represented.

Mr. Hill has earned a world-wide reputa-
tion by selling direct to the consumer, and
his prices are, in general, put at the lowest
possible notch. It can be seen that he can
afford to sell lower than the retailer when it
is known that he has sold 18,000 of the
Watches advertised elsewhere in this issue
direct to consumers. It is not probable that
so many thousand people would accept these
Watches when sent on trial if they were not
the remarkable bargain which Hill & Co.
represent them to be. Have one forwarded
to you, and pay for it if it suits you.

NEW CHRYSANTHEMUM SEED.

This charming new Chrysanthemum from Japan
blooms the first year from seed. They embrace all styles,
various and colors, including the exquisite new Scotch
Trumpet types, Rosettes, Globes, Fluted, Miniature
and Mammoth. Now the seed this spring, the plants
will bloom, probably this fall, \$5.00 per set, or
For only \$2.00 we will mail all the following:

1. 1st. MARIE FAVORITE, the red color.
2. 1st. MARGARET GARNETT, all colors, blooms to suit.
3. 1st. VERONICA, giant white flowers, new fragrant.
4. 1st. FLORIDA or WINTER PALE, a giant plant.
5. 1st. DWARF GIANT FLOWERED GLOBE, mixed, ex. dis.
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THE ORCHARD.

It is well to remember that the farmer who plants an orchard, a nut grove or a small timber tract now is "casting an anchor to windward."

Be careful when trimming the old trees. It needs to be done most intelli-
gently. Make the cuts smooth and
cover them with paint, as it prevents rot.

Grain crops should never be planted
among trees, as they deprive them of
air to a very injurious extent. If no
root crops are cultivated, the ground
should be kept clean and mellow with
the one-horse plow and cultivator.

It is a mistake not to mature old or-
chards. Often this is the reason they
fail to give satisfaction when they reach
full growth. If these trees appear
healthy, and yet make no growth, very
likely it is because they are hungry for
fresh plant food and need to be manured.

When all orchardists recognize the
necessity of spraying the trees, then the
large crops of fruit will be common
again to which we were accustomed
before the codlin moth, fungi and blight
of one kind and another became so dis-
tructive as they are at the present day.

Considering the earning power of an
acre, the orchard should be given credit
for more worth than is usually the case.
The yearly growth of 50 apple trees
upon an acre of ground is worth \$50,
at a very low estimate. At bearing age
a good tree will make a good dividend
upon such a value.

The objection to seeding down an or-
chard to grass is that it takes from the
soil the moisture needed by the trees,
and when allowed to grow close to the
trees seems to choke them. Clover does
not have this effect, nor does it usually
make a rank growth under the trees.
It rather tends to retain moisture by its
shade.

No orchard is complete without a good
assortment of cherry trees. In a dry
and mellow soil, a sandy or gravelly
loam, it is as hardy a tree as the orchard
contains. It clings to life in old age
with wonderful persistency. However,
it is, compared with apples, at least,
short-lived; 30 or 40 years measure its
span of life.

Orange growing in Arizona is de-
clared to have passed the experimental
stage, and will become an important in-
dustry in the Territory. This year's
crop in the Salt River Valley, where
most of the experimental groves are
situated, is large and of excellent quality.
The Arizona oranges ripen somewhat
earlier than those in southern California.

Now is a good time, to inspect and re-
adjust the labels on your fruit trees, and
to replace those that are missing. Often
the names become dim or effaced, and if
long-neglected many names may be en-
tirely lost. Use painted labels of reason-
ably-large size, write the name on them
plainly and fasten to one of the limbs
with copper wire in a large loop.

PLANTING OLIVE ORCHARDS.

A Discovery that was Worth Millions
Brought the Originator Nothing.

In California the method of growing
olive trees from small cuttings has for
ten years been made a great success.
Olive trees for orchard planting pur-
poses used to cost \$7 and \$8 each.
They can now be had by the thou-
sands for 10 cents and 15 cents each.
A poor Pomona nurseryman found by
experimenting that olive trees could be
propagated from cuttings by starting
them in the Winter months in boxes of
sand in hot greenhouses. That discov-
ery has been worth millions of dollars
to California and the Southwest, but
the discoverer is still working in a Pomona
nursery for \$1.50 a day. The cuttings
that come by the hundreds from a full-
sized tree are about the size of tooth-
picks. The new method of propagating
requires the most constant attention and
much experience, but the plants are
grown on such an enormous scale that
the cost of each is very low. When the
cuttings are rooted they are transferred,
in the warmer months of Spring, to the
out-of-doors nursery, where they become
trees of three and four feet in height in
12 to 18 months.

The practical California fruit-grower
plants the trees in his olive orchard 40
feet apart, so that there will be ample
room for the roots to spread over a large

NEW STRAWBERRIES ORIOLE & IDEAL

area and to get all the substance pos-
sible from the soil. Hidalgo Tablada,
of Spain, the most famous authority on
olive culture outside of California, says
that 50 feet is a safe span, as the roots
of each tree spread once and a half the
diameter of its crown. This separation,
too, insures light and heat in abundance,
some growers even pruning out the
center of the trees in a "goblet" shape to
further bestow these auxiliaries.

The olive has an almost human gift
of adaptation to environment. It flour-
ishes in a temperature that falls to 14
degrees above zero, and in the inland
valleys of California, where the ther-
mometer reaches 120 degrees, it grows,
irrigated only by natural rainfall. It
finds in the California foothills just such
homelike surroundings as at its 400-foot
level in Algeria and its Italian elevation
of 3,200 feet. It will prosper in any
friable soil rich in lime and potash, as
are all the virgin lands of the coast.
It also does well where its roots can
penetrate easily a rocky, clay, sand,
granite, or volcanic formation, seeming
to prefer an arid mountain soil, but not
disdaining life in the black adobe near
the coast.

Nut Growing in Missouri.

EDITOR AMERICAN FARMER: This
branch of horticulture is here receiving
the attention of late that it should have
had long ago. On clearing lands in
our Missouri River bottoms no wise man
will cut down a pecan nut tree.

I know a man about six miles from
here who has about 50 pretty, large trees
on a piece of land of about four acres,
the trees far enough apart to allow
farming the land. Some seasons, while
his wheat or corn may be a pretty fair
crop, the nuts yield as much.

The variety in this collection is great,
yet one bears larger nuts than any other.
It is the largest hardy pecan that I have
yet found, and I pay him double the
ordinary price for them and have sent
them all over the North.

Those left in the clearings on the
inlands in the Missouri River usually
commence bearing in about six years.—
S. M. Bluffton, Mo.

\$250.00 FOR TOMATOES. This is the most wonderful tomato ever
seen. It is a beautiful, very early, and will ripen in the cold North
every one. The seed will not be planted until April or May, and will give
abundant crops of ripe fruit. The seeds are for sale at 10 cents per
dozen. **ALL KINDS OF GARDEN SEEDS.** Very early. Seed to be all hand
picked. **JAPANESE CLIMBING CUCUMBER.** A wonderful variety
growing on a vine, and will climb a trellis, with setting, or may be
planted in a pot. Fruits early and continually long, tender, sweet